CBSE TEST PAPER-01

CLASS - XI BIOLOGY (Plant Kingdom)

General Instruction:

- All questions are compulsory.
- Question No. 1 to 3 carry one marks each. Question No. 4 to 6 carry two marks each. Question No. 7 and 8 carry three marks each. Question No. 9 carry five marks.

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1. Name the group of seedless vascular plants.

2. Which pigment is responsible for red colour of red algae?

3. Define a cone?

4. Comment on the features that led to the dominance of vascular plants?

5. Distinguish between Red algae & brown algae?

6. Enlist few salient features of dicot plants?

7. Briefly explain the structure of prothallus of a fern?

8. Point out differences between the mode of sexual reproduction of moss & fern?

9. Discuss the various life cycles of a green algae?

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[ANSWERS]

1. Pteridophytes.

2. Phycobilin, phycoerythrin & phycocyanin.

3. Cones are the organs of Reproduction in Gymnosperms. They are also called the fruiting body which consists of micro & megasporophyll. Microsporohylls are the structures of Male sex organ while megasporophylls are the structures of female sex organ.

4. Three important features have to dominance of Angiosperm:-
i) Development of well established deep roots capable of penetrating the soil to absorb water
ii) Development of water- proofing material eg. cutin on aerial surfaces, to reduce water loss through evaporation.
iii) Development of strong woody material as anchor & support above ground structures.

5.

RED ALGAE	BROWN ALGAE
i) Mostly unicellular & microscopic	i) filamentous & heterotrichous and macroscopic also
ii) Phycoerythrin, phycocyanin & phycobilin pigments are present.	ii) fucoxanthin pigment is present.
Ii iii) Reserve food material is Floridian starch	iii) Reserve food material is Laminarian starch.
iv) chlorophyll 'a' present	iv) chlorophyll 'a' absent
v) eg. *Gelidium, Polysiphonia*	v) *Laminaria, Fucus & Sargassum*

6. The dicotyledons are characterized by either woody or herbaceous habit, They have well developed tap root system. Their floral parts usually are in Tetramerous or Pentamerous. their leaves have Reticulate venation. In the stem the vascular bundles are Open, Collateral and arranged in a circle or ring. Vascular bundles are wedge shaped and possess Vascular cambium. The dicots have two cotyledons in their seeds.

7. Prothallus of Fern:-

i) It is a heart-shaped structure, autotrophic and independant

ii) The sex organs are present on the lower surface of the prothallus below the apical notch.

iii) Male Sex organs are antheridia & the female ones are archaegonia.

iv) Prothallus is produced from the meiospore.

v) Below the sex organs are rhizoids

vi) Archegonia are flask shaped but antheridia are globose.

vii) Male & female gametes are produced in antheridia & archegonia respectively

8.

MOSS (Bryophyte)	Fern (pteridophytes)
i) Sex organs are borne on the Primary gametophytic plant body.	i) Sex organs are borne on an inconspicuous gametophyte or prothallus which represents an alternate and secondary phase to sporophytic phase which is the primary plant body.
ii). Antheridia are well developed & often possess a stalk caled Antheridiophore	ii). Antheridia are less developed & mostly devoid of a stalk.
iii). Antheridial jacket made up of a layer of several cells.	iii). Antheridial jacket is mostly made up of only 3 – cells.
iv). Sperms biflagellate	iv). Multiflagellate sperms
v). Archegonia often have stalk caled	v). Archegonia do not have stalk

archegoinophore	
vi). Neck is 6 - rowed	vi). Neck is 4 – rowed.

9. There are three types of life cycle are found in green algae:-

a) HAPLONTIC LIFE CYCLE:- The dominant phase is haploid. Diploid state is found only in the form of zygote. Meiosis takes place at time of its germination. It has Zygotic meiosis Eg. *Ulothrix, Spirogyra.*

b) DIPLONTIC LIFE CYCLE:- The dominant phase of the alga is diploid. It gives rise to haploid gametes through meiosis leading to gametic meiosis Gametes unit & the zygote regenerates diploid phase. Gametes alone are haploid Eg. Diatoms

c) DIPLOHAPLONTIC LIFE CYCLE:- It has well developed multicellular haploid & diploid phase. These are respectively called gametophyte & sporophyte. Haploid gametophyte produce haploid gametes. Fusion product of gametes grows directly into diploid sporophytes. Sporophytes produce haploid spores by meiosis. The meiospores germinate into new gametophyte. Eg. *Ulva, Cladophora*